UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/817,555	04/02/2004	George Alan Vaughan	2001U004.US-CON	4892

7590 07/14/2005

Univation Technologies, LLC
Suite 1950
5555 San Felipe
Houston, TX 77056

EXAMINER	
RABAGO, ROBERTO	

ART UNIT	PAPER NUMBER
1713	

DATE MAILED: 07/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/817,555	VAUGHAN ET AL.	
	Examiner	Art Unit	
	Roberto Rábago	1713	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 April 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-13 and 15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-13 and 15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Terminal Disclaimer

1. The terminal disclaimer filed on 4/4/2005 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of US 6,828,394 has been reviewed and is accepted. The terminal disclaimer has been recorded.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 1 requires a density function which requires a specific ratio between ethylene:1-hexene; however, the specification is devoid of teaching which shows how to make the required polymer. The specification includes a discussion of how the comonomer:ethylene ratio affects the resultant density (paragraphs [0023]-[0025]), and Table 2 includes the claimed formula as a function of the hexene:ethylene ratio. However, there is nothing in the specification regarding the claimed functional

relationship between density and the ethylene:hexene mole ratio (i.e., the opposite of that shown in Table 2).

4. Claims 1-13 and 15 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for 1-hexene comonomer, does not reasonably provide enablement for other comonomers. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. Assuming the issue set forth in item 3 above is corrected to recite the 1-hexene:ethylene mole ratio instead of the ethylene:hexene mole ratio, the claims lack enablement for the making of copolymers using other comonomers besides 1-hexene. The claims appear to be based on a single data plot, i.e., the fifth formula of Table 2. This data provides enablement for the use of 1-hexene as comonomer; however, when no hexene is present, the formula collapses to y=0.9523. There is nothing in the specification which discusses any specific relationship between the density function and the comonomer mole ratio for any pairing other than ethylene and 1-hexene, and it appears that applicants have simply extracted a single result of Table 2 and are attempting to apply it over a vast array of methods and copolymers. However, the specification does not support such breadth.

5. Claims 1-13 and 15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Assuming the issue set forth in item 3 above is corrected to recite the 1-hexene:ethylene mole ratio instead of the ethylene:hexene mole ratio, then the scope of processes using comonomers other than 1-hexene are rejected under this title on the grounds that there is nothing in the specification which indicates that applicants envisaged, at the time the parent application was filed, the claimed scope of density relationships. The claims appear to be based on a single data plot, i.e., the fifth formula of Table 2. This data provides support for the use of 1-hexene as comonomer; however, when no hexene is present, the formula collapses to y=0.9523. There is nothing in the specification which discusses any specific relationship between the density function and the comonomer mole ratio for any pairing other than ethylene and 1-hexene, and it appears that applicants have simply extracted the result of Table 2 and are attempting to apply it over a vast array of methods and copolymers. However, the specification lacks any basis to conclude that applicants envisaged, at the time the parent application was filed, any connection between the data for a single run shown in Table 2 and the expanded scope of density relationships now claimed.

Although the density relationship in question was part of an originally filed claim, this application is stated by applicants to be a continuation of an earlier application. A continuation application may not introduce new matter into the disclosure or the claims, and since the parent of the instant application does not provide support for the full

scope of the instantly claimed density function, a rejection based upon new matter in an original claim of this continuing application is proper.

6. Although not a point of rejection under this title, the following is noted with respect to the comonomer ratios recited in the claims. Paragraphs [0023]-[0025] discuss the ratio of comonomer to ethylene with respect to their concentrations in the polymerization medium; accordingly, the claimed comonomer ratios are understood to reflect their relative amounts in the polymerization medium, and not in the resultant polymer.

Claim Rejections - 35 USC § 102

7. Claims 1, 6-9, 11 and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Follestad et al. (WO 00/50466).

The reference discloses ethylene/hexene copolymerization using two metallocene catalysts resulting in a bimodal polymer composition (Example 2), further disclosing gas phase methods (pg. 17, lines 1-15) and films (pg. 19, col. 34-37). The prior rejection inadvertently omitted claim 14 from the rejection; however, these limitations are disclosed in Example 2, Pol test no 11642, 11650 and 11651, and therefore the claims as amended are rejected over the same basis as previously made. The reference has not determined the claimed density function relationship, but one of ordinary skill in the art would conclude that the substituted indenyl zirconocene would have substantially smaller copolymerization activity, inclusive the claimed density

function and reactivity relationships, in view of steric crowding at the front of the molecule. The burden of proof is shifted to applicants to show that the applied reference examples do not contain the claimed density function and reactivity relationships.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Roberto Rábago whose telephone number is (571) 272-1109. The examiner can normally be reached on Monday - Friday from 8:00 - 4:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Roberto Rábago
Primary Examiner
Art Unit 1713

RR
July 9, 2005